
RAVAGE OF THE PLANET IV

OVERVIEW

The fourth International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards (RAVAGE for short) took place in Opatija, Croatia, organised by the Wessex Institute (WIT), represented by its Director, Professor Carlos A Brebbia.

The meeting was sponsored by the International Journal of Sustainable Development and Planning and the International Journal of Design & Nature and Ecodynamics.

The conference has a long and distinguished history having started in Bariloche, Argentina (2006) where it was opened by the Nobel Prize Laureate Dr Adolfo Perez Esquivel, to continue in Cape Town, South Africa (2009) and Kuala Lumpur, Malaysia (2011).

The basic premise of the meeting is the need to determine solutions before our planet reaches a point of no return.

Our society has fallen into a self-destructive process by which natural resources are consumed at an ever increasing rate. This process is now spread across the planet in search of further sources of energy and materials. The aggressiveness of the quest is such that the future of our planet is in the balance; the emphasis has been in dominating nature rather than trying to achieve harmonious relationships with her. The process is compounded by the pernicious effects of the resulting contamination of air, water and soil.

Like the first three meetings, the aim of this conference is to take stock of our situation and try to facilitate constructive principles and policies.

OPENING OF THE CONFERENCE

Carlos opened the meeting by pointing out the importance of the topics to be discussed during the conference. Wessex Institute aims to contribute to the debate of state of the art policies, especially through its conference series and publications.

Many of the WIT conferences are focussed on topics discussed during this meeting – Carlos said – particularly issues such as ecological, hazard and climate change, with the associated problems caused by air, water and soil pollution. The Ravage of the Planet conference recognises that it is not sufficient to come to technical solutions if they do not respond to political, economic and social realities.

WIT activities – Carlos explained – are of an interdisciplinary nature, trying to bring together different specialities and focussing its research in transferable skills. The work of the Institute Campus in the New Forest National Park has centred in the development of advanced simulation tools which can be applied for the solution of a wide range of scientific problems. Recent applications include the study of offshore structures and corrosion problems, plus cases of fracture and crash propagation. These applications are in response to industry's requirements

and as such vary from time to time. The tools however – i.e. advanced simulation codes – can be used to solve many problems.

The publication of volumes, other than conference proceedings, also tries to cover an ever expanding range of topics. Recently the focus has been on environmental and ecological problems, together with architectural heritage and energy issues, amongst others. This led to the launching of a new Journal in the field of Energy Production and Management, to be followed soon by two others.

The most relevant publication for the RAVAGE conference is the International Journal of Design & Nature and Ecodynamics. The publication acts as a forum for researchers working on a variety of studies involving nature and its significance to modern scientific thought and design. It also publishes work on Ecodynamics which aim to relate ecosystems to evolutionary thermodynamics to arrive to satisfactory solutions for sustainable development which is the most important challenge facing society today. The Journal has also opened new avenues for understanding the relationship between arts and sciences.



Professor Carlos A. Brebbia opening the conference

Carlos encouraged the presenters to submit enhanced versions of the work published in the conference volume to the above Journal as well as others relevant to the topics of the meeting.

He ended his introductory remarks by thanking the audience for their participation in the Conference and hoping that they would have the opportunity to see more of this part of the Croatian coast. Opatija is – Carlos said – a hidden jewel in Dalmatia, a legacy from the times when the country was part of the powerful and rich Austrian-Hungarian Empire which collapsed during the First World War. It has – Carlos thinks – the charm of Vienna combined with a unique Croatian-Italian cuisine and excellent local wines.

CONFERENCE TOPICS

The conference sessions covered a variety of topics including:

- Energy issues
- Ecosystems
- Environmental Risk
- Social-economic issues
- Planning and Development

INVITED PRESENTATIONS

There were several invited presentations, e.g.

“Improving the way to calculate risks: The Qualitative and Quantitative Risk Index R”, **Genserik Reniers**, University of Antwerp, Belgium.

“Uncertainties in flow duration curves in anthropized catchments”, **Gianfranco Becciu**, Politecnico di Milano, Italy.

“Carbon and ecological footprints: Tools for measuring the sustainability of the Institute of Engineering at the University of Baja California”, **Margarito Quintero-Nunez**, University of Baja California, Mexico.

SPECIAL PANEL DISCUSSION

A Panel discussion was organised during the conference with the participation of some of the senior scientists taking place in the meeting. The discussion was moderated by Carlos A. Brebbia of WIT, with the following panellists:

Genserik Reniers, Antwerp University, Belgium and Technical University of Delft, Netherlands.

Suren Kulshreshtha, University of Saskatchewan, Canada.

Gianfranco Becciu, Politecnico di Milano, Italy.

Jaap Vleugel, Delft University of Technology, Netherlands.

Darka Mioc, Technical University of Denmark, Denmark.

Margarito Quintero-Nunez, Universidad Autonoma de Baja California, Mexico.

Carlos introduced the speakers and opened the debate by referring to the aims of the conference, i.e. to discuss the state of our planet, in particular its natural resources and ecological systems, with particular reference to the hazards occurring and the need to arrive at sustainable development.

Natural resources are being consumed at an increasing rate, including energy, materials and water. In the process we are contaminating air, water and soil, the whole of our planet.

The unequal distribution of resources in terms of regional and social classes is setting us on a disastrous path. There is a need to look for solutions that take into account socio, economic and political aspects.

We seem, however, unable to find a way forward threatening to introduce instabilities in the energy, water and food balance.

Confidence in being able to find technological solutions may be misplaced if they are not evaluated in terms of all aspects of the problem. The solution may lay in developing a more equitable society that sets a higher value in quality of life.

Genserik was of the opinion that one of the problems nowadays is that we are always seeking short term solutions which are inadequate to tackle the problems we are currently facing.

Gianfranco thought that the problem was more fundamental; the model of sustainability we are using is substantially wrong. It requires the ever increasing use of resources in order to keep the system going, with over production and waste contributing to the consequent imbalance. In the case of water resources for instance, the most important issues are socio-economic which are not being properly addressed. He also referred to the pioneering work of the Club of Rome whose fundamental principles are still valid. Reading their 'Limits to Growth' when still a young researcher opened his eyes to the problems that were accumulating for mankind.

Genserik agreed with these concepts and thought that it is as important to educate the public as to develop new technologies.

In Suren's opinion, we are ignoring the ecological systems as many are still unwilling to accept the urgency of problems such as climate change, food and water security and the depletion of natural resources. The concept and importance of biodiversity is not fully understood by society as a whole. Species, including humans, will be forced to migrate in ways that are unimaginable now.

Jaap referred to the importance that climate change has in developing countries and their efforts to reach the same standards as the developed nations. We have a moral responsibility to address this problem and their genuine expectations.

Darka referred to the importance of being able to communicate amongst different disciplines and try to understand the work of other specialists. This type of interdisciplinarity – she said – is characteristic of WIT conferences, which are substantially different from other meetings.

Reality – Darka said – is very complex and we ought to be open to other disciplines and particularly be able to interact with politicians. Perhaps the global society will give us better opportunities for proper communication.

Margarito agreed with Darka's comments, we do not seem to be able to communicate effectively with the political authorities and people in power. Politicians, in particular, are unable to contemplate long term solutions. The only way around this is to educate society in general in a language that is easy to understand by all stakeholders. This may result in empowering everybody to contribute to the decision making process.

Carlos asked the audience to put forward questions for the panellists, which gave rise to a lively discussion, at the end of which he closed the proceedings.

Carlos' closing remarks referred to the need, as a matter of urgency to find solutions to the many problems affecting our society. The solution needs to address all aspects of the problem, i.e. social, economic and political, as well as technical. We need to arrive to a fairer society in which the needs of all members are addressed. In recent years, however, the tendency has been to aggravate the difference between rich and developing countries as well as between the well-off classes and those at the other end of the spectrum. This tendency, which has taken place in all countries, will result in an unbalanced and unstable society and seems to be a natural consequence of our exploitive, business orientated approach. Somewhat we have become victims of a system based on the exploitation of natural resources and personal greed. What is needed is a fundamental change in our objectives and priorities. The opportunities provided by the new age of global information can lead to that although the signs are that instant and fast communication is becoming just another way to respond to the current market driven economy. There is still hope for a peaceful evolution towards a new society based on better use and distribution of resources, aiming to higher quality of life and respect for nature.



Roman Amphitheatre in Pula

SOCIAL ACTIVITIES

The conference programme included many social activities to help the delegates make contact and develop joint programmes of research. A guided excursion to Pula, the largest city in Istria, located in the southern top of the peninsula, was arranged. The city which has a rich history dating back to the times of the Roman Empire is known for its fishing and shipbuilding as well as for winemaking and tourism.

The delegates were taken to visit the Roman Amphitheatre, one of the largest such buildings in the world, which is still frequently used for many events and festivals. After that they continued sightseeing in the old City Centre and saw Porta Gemini and Porta Aurea, arriving afterwards to the Roman forum where there are two ancient buildings in excellent state of conservation, one a Roman temple, the other an administrative centre. Strolling through the City they were also able to appreciate other heritage buildings.

The visit to Pula was a truly remarkable experience which underlines the importance of the Croatian coastal region during the times of the Roman and Venetian empires. Opatija by contrast is a product of the Austrian-Hungarian Empire, whose nobility built a series of luxurious villas along the coast.

CONFERENCE DINNER

The conference banquet consisted of two parts, starting with a boat excursion along the coast, followed by a dinner on the terrace of the best restaurant in town.

The boat took the delegates along the coast so that they could appreciate better some of the beautiful villas built by the Austrian-Hungarian aristocracy in Opatija. They had time, over



ISAC meeting dinner

drinks and snacks, to also see many of the new hotels in this rapidly developing part of the Dalmatian coast.

Following the excursion, the delegates proceeded to a five course dinner, accompanied by excellent local wines, including Malvasia white and Cabernet Sauvignon red. The Croatian cuisine is renowned for the variety of dishes and its outstanding fish, pasta and risotto recipes. The influence of different cultures is evident through the richness and variety of the local cuisine.

The International Scientific Advisory Committee of the conference met over dinner to discuss the progress of the series and ways to improve future meetings. The discussions centred on the need to rewrite the objectives of *Ravage of the Planet* to better reflect the contents of future conferences. It was also agreed to modify the list of topics accordingly. Several location options for the forthcoming conference were proposed and they will be investigated by WIT Conference Division.

CLOSING OF THE CONFERENCE

Carlos closed the meeting by thanking all participants for their contributions and hoping that some will be able to take advantage of the offer to submit a paper to one of our five WIT journals. He also hoped that the delegates will continue to support WIT work, particularly by attending future conferences and consider visiting its New Forest campus to become better acquainted with the work of the Institute and find ways of collaborating.

CONFERENCE PROCEEDINGS

The proceedings of Ravage of the Planet IV – Management of Natural Resources, Sustainable Development and Ecological Hazards IV, 314pp (Print ISBN: 978-1-84564-970-8; eISBN: 978-1-84564-971-5) are available from WIT Press. Orders can be placed on the WIT Press web site at www.witpress.com or by email: marketing@witpress.com, telephone: +44 (0) 238 029 3223 or fax: +44 (0) 238 029 2853.

Papers from the conference will also be hosted online at the WIT eLibrary in Volume 199 of WIT Transactions on Ecology and the Environment (ISSN: 1746-448X Digital ISSN: 1743-3541). For more details visit the WIT eLibrary at www.witpress.com/elibrary

